1964 Index to Feature Articles

Volumes 59 & 60 Jan-Dec 1964

ALUMINUM AND ITS ALLOYS

Aluminum castings keep strength after chem-milling—June, p 112
Die castings—Mar, p 101
Formability of sheet metals for product design—June, p 89
How to form and fabricate pre-painted aluminum—Jan, p 92
Insulation for submarine pressure hull—Apr, p 136
Metals for cryogenic applications?, Which—May, p 83
Precision forgings or die castings? —July, p 81
Pure aluminum coatings are uniform and nonporous—June, p 108
Spherical aircraft bearings—Apr, p 132
The total cost of weight—Mar, p 76

BERYLLIUM

Beryllium-aluminum alloys—promising new structural metals—Sept, p 103
Formability of sheet metals for product design—June, p 89
How to form and fabricate pre-painted aluminum—Jan, p 92
Parabolic microwave antenna—Apr, p 131

CARBON, GRAPHITE

Impregnation improves carbon-graphite—Sept, p 93
Low friction computer tape—Apr, p 128
Molybdenum resists corrosion at high temperatures—Oct, p 104

CASTINGS

Aluminum castings keep strength after chem-milling—June, p 112
Die castings—Mar, p 101
Malleable irons—Jan, p 101
Precision forgings or die castings? —July, p 81

CERAMICS, GLASS

Borosilicate glasses—June, p 113
Computer memory system—Apr, p 134
Electrical conductor for 2500+ F?, Which—Feb, p 84
Glass-ceramics for insulator seals, New—Jan, p 85
How to fasten ceramics with tubular rivets—Apr, p 108
Optical materials, A guide to—Oct, p 91
Parabolic microwave antenna—Apr, p 131
Radiant gas heater—Apr, p 113

COATINGS, FINISHES

Chromate conversion coatings—May, p 105
Elastomeric coatings—Aug, p 99
Electroplates broaden use of plastics—Nov, p 96
Finishes for glass fiber reinforced plastics—Oct, p 106
Fluorocarbon plastics—Feb, p 93
How to evaluate coated fabrics—July, p 92
One-part urethane coatings are tough and attractive—Mar, p 87
Phosphate conversion coatings—May, p 101
Photoelastic coatings, How to select—Sept, p 99
Porcelain enamel coated steels—Dec, p 92
Pure aluminum coatings are uniform and nonporous—June, p 108
Thermoplastic phenoxy coatings match many thermosets—July, p 86

COMPOSITES (not classified elsewhere)

Filament winding puts strength where needed—Feb, p 90
Formable vinyl-clad steel plate resists corrosion—Feb, p 86
Insulation for submarine pressure hull—Apr, p 136

COPPER AND ITS ALLOYS

Copper—Dec, p 115
Die castings—Mar, p 101
Fiber metal provides controllable properties—Oct, p 96
Precision forgings or die castings? —July, p 81

CORROSION RESISTANT PROPERTIES AND MATERIALS

Evaluating polyester laminates for chemical resistance—Apr, p 110
Nickel and nickel alloys—July, p 97
Pure aluminum coatings are uniform and nonporous—June, p 108
Weathering resistance of plastics—Jan, p 69
Wrought austenitic stainless steels —Oct, p 111

ELECTRICAL AND ELECTRONIC PROPERTIES AND MATERIALS

Computer memory system—Apr, p 134
Electrical conductor for 2500+ F?, Which—Feb, p 84
Evaluating materials for airborne electronics equipment—Mar, p 84
Inorganic potting compounds for high temperatures—Dec, p 100
Insulating power tools and appliances with plastics—Oct, p 100
Low friction computer tape—Apr, p 128
Nickel strip has better electrical conductivity—Jan, p 97
Pyrolytic boron nitride, New—Feb, p 78

EXTRUSIONS

Steel extrusions, Don't overlook—Sept, p 96
Tough steel strip—already heat treated—Jan, p 100

FABRICS, FELTS, FIBERS

Fiber metal provides controllable properties—Oct, p 96
How to evaluate coated fabrics—July, p 92
Synthetic fibers improve felt properties—Nov, p 100
Woven fabrics: their properties and uses—May, p 88

FORGINGS

Designing with titanium forgings—Nov, p 91
Precision forgings or die castings? —July, p 81

FORMING

Formability of sheet metals for product design—June, p 89
High dimensional fidelity by electroforming—Dec, p 108
High strength pressure vessels by stretch forming—Nov, p 104
How to form and fabricate pre-painted aluminum—Jan, p 92

GENERAL

Calculating weight efficiencies of pressure vessels—Mar, p, 82
Evaluating materials for airborne electronics equipment—Mar, p 84
Lightweight materials needed for portable appliances—Mar, p 81
Measuring and controlling property variability—July, p 84
Minimum weight factors for railway equipment—Mar, p 86
Selecting materials for lightweight structures—Mar, p 78
Selecting materials for minimum weight—Mar, p 75
The total cost of weight—Mar, p 76

HEAT TREATMENT

Half million psi steels by ausforming—May, p 92

HIGH TEMPERATURE PROPERTIES AND MATERIALS

Adhesives for high and low temperatures—I—Aug, p 94
Adhesives for high and low temperatures—II—Sept, p 108
Electrical conductor for 2500+ F , Which—Feb, p 84
Fiber metal provides controllable properties—Oct, p 96
Flame retardant plastics—Nov, p 83
Inorganic potting compounds for high temperatures—Dec, p 100
Nickel and nickel alloys—July, p 97

1964 Index *(continued)*

Pyrolytic boron nitride, New—Feb, p 78
Pyrolytic tungsten parts and coatings resist heat—Aug, p 82
Stainless steel retains high strength to 1200 F, New—Aug, p 92
Wire mesh heating element—Apr, p 135

IRONS

Fiber metal provides controllable properties—Oct, p 96
Malleable irons—Jan, p 101
Specific heats of materials at low temperatures—May, p 87

JOINING AND FASTENING

Adhesives for high and low temperatures–I—Aug, p 94
Adhesives for high and low temperatures–II—Sept, p 108
Design for solder preforms—Mar, p 96
Glass-ceramics for insulator seals, New—Jan, p 85
High strength steel is weldable, New—Jan, p 90
How to fasten ceramics with tubular rivets—Apr, p 108
Locked threaded fastener—Apr, p 120
Stronger welds, New approach produces—Jan, p 87

MACHINING/METAL REMOVAL

Aluminum castings keep strength after chem-milling—June, p 112

MAGNESIUM AND ITS ALLOYS

Die castings—Mar, p 101
Formability of sheet metals for product design—June, p 89
Precision forgings or die castings?—July, p 81

MOLDING, MOLDINGS

Injection moldings—Sept, p 113
Water softener valve—Apr, p 129

MOLYBDENUM AND ITS ALLOYS

Electrical conductor for 2500+ F?, Which—Feb, p 84
Formability of sheet metals for product design—June, p 89
Molybdenum resists corrosion at high temperatures—Oct, p 104

NICKEL AND ITS ALLOYS

Fiber metal provides controllable properties—Oct, p 96
Formability of sheet metals for product design—June, p 89
Metals for cryogenic applications?, Which—May, p 83
Nickel and nickel alloys—July, p 97
Nickel strip has better electrical conductivity—Jan, p 97

NONFERROUS METALS (not classified elsewhere)

Dispersion strengthened lead—a new structural material—Apr, p 105
Fiber metal provides controllable properties—Oct, p 96
Metal tubing for flexing uses, Picking—May, p 98
Pyrolytic tungsten parts and coatings resist heat—Aug, p 82
Selecting materials for lightweight structures—Mar, p 78
Specific heats of materials at low temperatures—May, p 87
Wire mesh heating element—Apr, p 135

NONMETALLICS (not classified elsewhere)

Cryogenic biological container—Apr, p 133
Optical materials, A guide to—Oct, p 91
Pyrolytic boron nitride, New—Feb, p 78

PLASTICS—REINFORCED

Calculating weight efficiencies of pressure vessels—Mar, p 82
Evaluating polyester laminates for chemical resistance—Apr, p 110
Filament winding puts strength where needed—Feb, p 90
Finishes for glass fiber reinforced plastics—Oct, p 106
Flame retardant plastics—Nov, p 83
Railroad tank car—Apr, p 122
Reinforced plastics, The fatigue resistance of—Dec, p 87
The total cost of weight—Mar, p 76
Which plastics for refrigerators?—Jan, p 98

PLASTICS—THERMOPLASTICS

Adhesives for high and low temperatures–I—Aug, p 94
Adhesives for high and low temperatures–II—Sept, p 108
Are you evaluating thermoplastics properly?—June, p 105
Family of tough, rubbber-like plastics, New—May, p 96
Flame retardant plastics—Nov, p 83
Fluorocarbon plastics—Feb, p 93
Injection moldings—Sept, p 113
Insulating power tools and appliances with plastics—Oct, p 100
Optical materials, A guide to—Oct, p 91
Plastics bearing materials—Mar, p 90
Polyimide plastics withstand high temperatures—Aug, p 86
Power transmission device—Apr, p 116
Seal for oil well pump polish rods—Apr, p 130
Spherical aircraft bearings—Apr, p 132
Stress and modulus nomographs for thermoplastics—July, p 89
Structure determines properties of plastics, How—May, p 79
Thermoplastic phenoxy coatings match many thermosets—July, p 86
Tough, transparent plastics, New—Sept, p 106
Water softener valve—Apr, p 129
Weathering resistance of plastics—Jan, p 69
Which plastics for refrigerators?—Jan, p 98

PLASTICS—THERMOSETS

Adhesives for high and low temperatures–I—Aug, p 94
Adhesives for high and low temperatures–II—Sept, p 108
Flame retardant plastics—Nov, p 83
One-part urethane coatings are tough and attractive—Mar, p 87
Parobolic microwave antenna—Apr, p 131
Plastics bearing materials—Mar, p 90
Weathering resistance of plastics—Jan, p 69

POWDER METALLURGY

Improve powder metallurgy parts by repressing—Apr, p 113
Nickel strip has better electrical conductivity—Jan, p 97

PRECIOUS METALS

Electrical conductor for 2500+ Which—Feb, p 84
Fiber metal provides controllable properties—Oct, p 96

RUBBER

Automotive V-belt—Apr, p 124
Elastomeric coatings—Aug, p 99
EPT elastomer—the "crackless" rubber—Aug, p 79
How to evaluate coated fabrics—July, p 92
Tube supports for heat exchanger—Apr, p 126
Seal for oil well pump polish rods—Apr, p 130

STAINLESS AND HEAT RESISTANT STEELS

Fiber metal provides controllable properties—Oct, p 96
Formability of sheet metals for product design—June, p 89
Half million psi steels by ausforming—May, p 92
High strength pressure vessels by stretch forming—Nov, p 104
Metals for cryogenic applications?, Which—May, p 83
Stainless steel retains high strength to 1200 F, New—Aug, p 92
Wrought austenitic stainless steels—Oct, p 111

STEELS

Calculating weight efficiencies of pressure vessels—Mar, p 82
Formability of sheet metals for product design—June, p 89
Formable vinyl-clad steel plate resists corrosion—Feb, p 86
Half million psi steels by ausforming—May, p 92
High strength steel is weldable, New—Jan, p 90
Maraging steels provide ultra high strength—Dec, p 104
Metal tubing for flexing uses, Picking—May, p 98
Mill heat-treated high strength steels—Feb, p 73
Porcelain enamel coated steels—Dec, p 92
Selecting materials for lightweight structures—Mar, p 78
Stronger welds, New approach produces—Jan, p 87
Tough steel strip—already heat treated—Jan, p 100

TESTING AND INSPECTION

Are you evaluating thermoplastics properly?—June, p 105
Evaluating polyester laminates for chemical resistance—Apr, p 110
How to evaluate coated fabrics—July, p 92
Measuring and controlling property variability—July, p 84
Photoelastic coatings, How to select—Sept, p 99
Short-time relaxation test for spring materials—June, p 110

TITANIUM AND ITS ALLOYS

Aircraft leading edge—Apr, p 137
Designing with titanium forgings—Nov, p 91
Formability of sheet metals for product design—June, p 89
Metals for cryogenic applications?, Which—May, p 83

TUBING

Metal tubing for flexing uses, Picking—May, p 98

ZINC

Die castings—Mar, p 101
Precision forgings or die castings?—July, p 81

Authors

Aborn, Dr. R. H., Bismuth permits thicker malleable iron castings—Oct, p 156
Ali, Dr. S. A., Evaluating materials for airborne electronics equipment—Mar, p 84
Arnott, C. W., Radiant gas heater—Apr, p 118

Ball, O., Aircraft leading edge—Apr, p 137
Barr, R. Q., New developments in refractory metals—Apr, p 186
Barrett, J. J., Don't overlook steel extrusions—Sept, p 96
Basche, Dr. M., New pyrolytic boron nitride—Feb, p 78
Pyrolytic tungsten parts and coatings resist heat—Aug, p 82
Bodkin, J. R., Aluminum castings keep strength after chem-milling—June, p 112
Briggs, Dr. J. Z., Mill heat-treated high strength steels—Feb, p 73
Brown, G. E., Improve powder metallurgy parts by repressing—Apr, p 113
Burton, G. W., How important is engineer-molder liaison?—June, p 122

Carlson, C. L., Short-time relaxation test for spring materials—June, p 110
Chaffin, G., Titanium shows promise for marine hardware—May, p 148
Cohen, L. A., Are you evaluating thermoplastics properly?—June, p 105
Crooks, D. D., Beryllium-aluminum alloys—promising new structural metals—Sept, p 103
Crosby, J. J., Pure aluminum coatings are uniform and nonporous—June, p 108

Dacey, H. G., Locked threaded fastener—Apr, p 120
Davis, J. W., The fatigue resistance of reinforced plastics—Dec, p 87
Deaux, R. E., Which plastics for refrigerators?—Jan, p 98

Ehlers, S., Woven fabrics: their properties and uses—May, p 88
Epstein, G., Filament winding puts strength where needed—Feb, p 90
Evans, D. J. I., Dispersion strengthened lead—a new structural material—Apr, p 105

Faunce, R. L., Half million psi steels by ausforming—May, p 92
Fenn, Jr., R. W., Beryllium-aluminum alloys—promising new structural metals—Sept, p 103
Fisher, J. I., Fiber metal provides controllable properties—Oct, p 96
Fuschillo, N., Which electrical conductor for 2500+F?—Feb, p 84

Gates, Jr., C. C., Automotive V-belt—Apr, p 124
Gimpl, M., Which electrical conductor for 2500+F?—Feb, p 84

Hamilton, H., Which metals for cryogenic applications?—May, p 83
Harman, C. M., Fluid amplifiers of glass shaped by photo-etching—July, p 117
Hastings, C. H., Measuring and controlling property variability—July, p 84
Hauck, J. E., EPT elastomer—the "crackless" rubber—Aug, p 79
Flame retardant plastics—Nov, p 83
A guide to optical materials—Oct, p 91
Insulating power tools and appliances with plastics—Oct, p 100
Haumann, W., Cryogenic biological container—Apr, p 133
Hays, L. E., New high strength steel is weldable—Jan, p 90
Hemes, E. C., How to evaluate coated fabrics—July, p 92
Henderson, S. W., High strength pressure vessels by stretch forming—Nov, p 104
Heuschkel, J., New approach produces stronger welds—Jan, p 87
Hodgson, B. P., New glass-ceramics for insulator seals—Jan, p 85
Hotchkiss, S., Computer memory system—Apr, p 134
Huffman, H. R., Dispersion strengthened lead—a new structural material—Apr, p 105
Hull, F. C., New stainless steel retains high strength to 1200 F—Aug, p 92

Justusson, W. M., Half million psi steels by ausforming—May, p 92

Katcher, M., Which metals for cryogenic applications?—May, p 83
Kausen, R. C., Adhesives for high and low temperatures—I—Aug, p 94
Adhesives for high and low temperatures—II—Sept, p 108
Kell, R. M., How structure determines properties of plastics—May, p 79

Langley, L. W., Fluid amplifiers of glass shaped by photo-etching—July, p 117
Lanning, J. G., Radiant gas heater—Apr, p 118
Li, K., Computer memory system—Apr, p 134
Little, C. V., Railroad tank car—Apr, p 122
Lyall, C., Water softener valve—Apr, p 129

Mahlstedt, D., Water softener valve—Apr, p 129
Manko, H., Design for solder preforms—Mar, p 96
Martin, G., Maraging steels provide ultra high strength—Dec, p 104
Martin, Jr., W. C., Tube supports for heat exchanger—Apr, p 126
Mathews, C. C., Picking metal tubing for flexing uses—May, p 98
McCarthy, J. A., The fatigue resistance of reinforced plastics—Dec, p 87
McMillan, P. W., New glass-ceramics for insulator seals—Jan, p 85
McQuillan, W. P., High silver-copper braze shows good creep strength—Jan, p 146

Nair, Jr., F. B., Molybdenum resists corrosion at high temperatures—Oct, p 104

O'Connell, R. F., Cryogenic biological container—Apr, p 133

Parker, C. M., Porcelain enamel coated steels—Dec, p 92
Peters, Dr. R. L., Specific heats of materials at low temperatures—May, p 87
Stress and modulus nomographs for thermoplastics—July, p 89
Pierce, W. E., Porcelain enamel coated steels—Dec, p 92

Rajchman, J., Computer memory system—Apr, p 134
Ranger, R. P., Wire mesh heating element—Apr, p 135
Reid, R. H., Calculating weight efficiencies of pressure vessels—Mar, p 82
Resnick, I., Insulation for submarine pressure hull—Apr, p 136
Robb, J. F., Mill heat-treated high strength steels—Feb, p 73
Ruffing, C. R., Technique bonds plastics to metals—Aug, p 118
Rugger, G. R., Weathering resistance of plastics—Jan, p 69

Schiff, Dr. D., New pyrolytic boron nitride—Feb, p 78
Schurb, J. N., The fatigue resistance of reinforced plastics—Dec, p 87
Shahbender, R., Computer memory system—Apr, p 134
Smith, A. D., Power transmission device—Apr, p 116
Sneed, J., Seal for oil well pump polish rods—Apr, p 130
Snyker, J. E., Low friction computer tape—Apr, p 128
Sparks, R. B., Designing with titanium forgings—Nov, p 91
Stephenson, Jr., W. B., High dimensional fidelity by electroforming—Dec, p 108
Stickney, P. B., How structure determines properties of plastics—May, p 79
Stout, R. P., One-part urethane coatings are tough and attractive—Mar, p 87
Switzky, H., Selecting materials for lightweight structures—Mar, p 78
Szinyei, J., Precision forgings or die castings?—July, p 81

Telang, Y. P., Half million psi steels by ausforming—May, p 92
Todd, N. W., Polyimide plastics withstand high temperatures—Aug, p 86
Traynor, F. J., Technique bonds plastics to metals—Aug, p 118

Underwood, E. E., Beryllium-aluminum alloys—promising new structural metals—Sept, p 103

Vondracek, C. H., Inorganic potting compounds for high temperatures—Dec, p 100

Warner, J. P., Dispersion strengthened lead—a new structural material—Apr, p 105
Watson Pedlow, J., Formable vinyl-clad steel plate resists corrosion—Feb, p 86
Wegner, H. E., How to form and fabricate prepainted aluminum—Jan, p 92
Wentworth, C., Computer memory system—Apr, p 134
Wessel, E. T., New high strength steel is weldable—Jan, p 90
West, P., Electroplates broaden use of plastics—Nov, p 96
Finishes for glass fiber reinforced plastics—Oct, p 106
Thermoplastic phenoxy coatings match many thermosets—July, p 86
Williams, W. D., Parabolic microwave antenna—Apr, p 131
Wolff, F. A., Polyimide plastics withstand high temperatures—Aug, p 86
Wood, W. W., Formability of sheet metals for product design—June, p 89

Zecco, Jr., J. J., Designing with titanium forgings—Nov, p 91
Ziccarelli, R. B., Spherical aircraft bearings—Apr, p 132
Zolin, B., Evaluating polyester laminates for chemical resistance—Apr, p 110 ■■